

CLAIMS:

1. A dual stack optical data storage medium for recording and reading by means of a focused radiation beam entering the medium through a first radiation beam entrance face, said medium having at least a first substrate with on at least one side of the first substrate:

5 - a first layer stack, comprising a first information layer,
- a second layer stack, comprising a second information layer, said second layer stack being present at a position more remote from the first radiation beam entrance face than the first layer stack,
- a first transparent spacer layer between the first layer stack and the second
10 layer stack,

characterized in that the first information layer is one selected from the group of types consisting of a read only layer and an organic write once layer, and that the second layer stack consists of maximally three adjacent layers of an inorganic metallic material.

15 2. A dual stack optical data storage medium as claimed in claim 1, wherein the second layer stack is a bilayer of a phase change alloy layer and a metallic reflective layer, the metallic reflective layer being present closer to the radiation beam entrance face than the phase change alloy layer.

20 3. A dual stack optical data storage medium as claimed in any one of claims 1 or 2, wherein the metallic reflective layer mainly comprises Al.

4. A dual stack optical data storage medium as claimed in any one of claims 1 - 3, wherein the phase change layer is an alloy comprising Sb and Te.

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5. A dual stack optical data storage medium as claimed in claims 3 and 4, wherein the thickness of the Al layer is selected from the range of 5-10 nm and thickness of the phase change layer is selected from the range of 10-40 nm.

6. A dual stack optical data storage medium as claimed in any one of claims 1 - 5, wherein the medium further comprises a second radiation beam entrance face opposite from the first radiation beam entrance face and

- a third layer stack, comprising a third information layer selected from the group consisting of a read only layer and an organic write once layer,

- a fourth layer stack, being present at a position more remote from the second radiation beam entrance face than the third layer stack, said fourth layer stack consisting of maximally three adjacent layers of an inorganic metallic material, and

- a second transparent spacer layer between the third layer stack and the fourth layer stack.

7. A dual stack optical data storage medium as claimed in any one of claims 1 – 6, wherein the effective reflection level of the stacks is at least 0.18 at a radiation beam wavelength of approximately 655 nm.

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8. Use of an dual stack optical data storage medium as claimed in any one of the preceding claims, in an optical data storage device suitable for reading a dual stack ROM version of said medium.